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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: James D. Pylant et al.

Group Art Unit: 3677

Serial No.: 10/620,282

Examiner: Jack Lavinder

Filing Date: July 14, 2003

Attorney Docket: PI-015

Title: **BARE DIE TRAY CLIP**

TRANSMITTAL

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Attached is an Appeal Brief for the above-identified application. The Appeal Brief is being submitted within two months of the Notice of Appeal, which was filed on August 3, 2006. The Commissioner is authorized to charge \$500.00 for the filing of the Appeal Brief to Deposit Account 50-2991. The Commissioner is authorized to charge any additional fees that may be due to Deposit Account 50-2991.

Respectfully submitted,

A handwritten signature in black ink.

Isabelle R. McAndrews
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Certificate of Mailing

I hereby certify that this correspondence and the documents referred to as attached hereto are being deposited with the U.S. Postal Service with sufficient postage in an envelope addressed to the Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450

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Isabelle R. McAndrews

09-05-06

Date



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APPEAL BRIEF

Sir:

This Appeal Brief follows the Notice of Appeal filed on August 3, 2006 for the above-identified application.

I. Real Party in Interest

The Real Party in Interest in this Appeal is Peak Plastics and Metal Products (International) Limited, the Assignee of the above-identified patent application.

II. Related Appeals and Interferences

No other appeal or interferences are known to Appellant which will directly affect, be directly affected by, or have a bearing on the Board's decision in this appeal.

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III. Status of Claims

The application includes claims 1 – 4, 8 – 11, 16 – 19, 28, 30, 32, and 33. Claims 5 – 7, 12, 13, 20 – 22, 24, 25, 27 and 31 were withdrawn and Claims 14, 15, 23, 26, and 29 were cancelled. Accordingly, Claims 5 – 7, 12, 13, 20 – 27 and 31 are not involved in this Appeal.

Claims 1 – 4, 8 – 11, 16 – 19, 28, 30, 32, and 33 were finally rejected in the office action dated August 17, 2006 and are at issue in this Appeal. Claims 1 – 4, 8 – 11, 16 – 19, 28, 30, 32, and 33 as now pending in the application are set forth in the attached Appendix.

IV. Status of Amendments

Entry of an amendment after the final office action dated July 28, 2006 was requested in an Amendment filed August 3, 2006, and was granted in the Advisory Action dated August 17, 2006. Claims 18 and 19 in the Appendix include the amendment entered after the final rejection.

V. Summary of Claimed Subject Matter

The invention is directed to an apparatus for clamping together in a stack at least one tray (36) and a cover (42). The apparatus may be a unitary assembly or composed of separate parts. (*See Specification, at page 6 and paragraph 28.*) Specifically, the apparatus comprises a channel structure composed of a base (46), a pair of walls (48 and 50) and a channel (44). The apparatus also includes

at least two pressure members (60 and 62) attached to the channel structure, wherein each pressure member (60 and 62) has a slit (55) between the base (46) and a side of the pressure member (51). Pressure members (60 and 62) apply a force to a perimeter portion (74) of the stack (38) to clamp the stack (38) together (*Fig. 6, and Specification at p. 4, paragraph 23, and page 5, paragraph 25, last 5 lines.*) Each of the pressure members (60 and 62) are disposed in a plane different than the plane formed by a surface of the channel structure (46, 48 and 50) (see Fig. 5).

In one embodiment, the tray (36) tray (36), with its cover, forms a stack (38) that is inserted into one of the opposing ends (64 and 66) of the channel (44). Once the tray stack (38) is inserted into the channel (44), the channel structure restricts lateral and vertical movement of the stack (38). (See specification at p. 2, para. 8, lines 4 and 5.) The bottom of the channel (44) is formed by a base (46) having an outer edge that is linear along its entire surface. (See Figure 5.) Attached to each wall (48 and 50) above the base (46) is a protrusion (52/54) that extends inward toward the channel (44). The protrusions (52/54) extend from each wall (48 and 50) (also known as restraining segments) over a portion of the stack (38) when the stack (38) is inserted in the channel (44). (*See Fig. 7, the Specification at page 3, lines 3 -5 and at page 4, lines 7 - 12.*) In the apparatus, the stack (38) is clamped between the protrusions (52/54) and the pressure members (60 and 62).

The present invention may also include a resilient member (60 and 62) that extends from the base (46) on each end of channel (44), as shown in Fig. 5.

These resilient members extend in an upward direction from the base (46) and are located opposite each other. (*See Figures 4 and 5.*) The force exerted by the resilient members (60 and 62) is applied to the edge portions (72 and 74) of the bottom of stack 38. (*See specification at p. 4, paragraph 23.*) As a result, the invention confines retaining forces to the edges of the tray stack (38) and thereby reduces tray warpage, when the tray stack is secured by the clip. (*Specification at p. 2, paragraph 7.*)

VI. Grounds of Rejection to be Reviewed on Appeal

- 1) Claims 1 – 4, 16 – 19, 28, 30, 32, and 33 stand rejected under 35 USC §102 (b) over Appellants' Admitted Prior Art shown in Figure 4 (hereinafter AAPA).
- 2) Claims 8 – 11 stand rejected under 35 USC §103 over AAPA

VII. Argument

A. No Anticipation Possible Since AAPA Fails to Teach each Element of the Invention

A rejection under 35 USC 102(b) requires that the four corners of a single prior art reference describe every element of the claim such that a person can practice the invention without undue experimentation. Atlas Powder Co. vs. Ireco Inc., 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999). AAPA does not anticipate Claims 1 – 4, 16 – 19, 28 -30, 32 and 33 because:

1. AAPA (Fig. 4) does not apply a force to any portion of the perimeter of a stack;

2. Resilient Members that extend from the base of a first and second end of the channel are absent from AAPA's structure; and
3. A narrow tray is neither disclosed nor suggested by AAPA.

Each of these distinctions between AAPA and the present invention are described in more detail below.

1a) Distinction #1: AAPA Fails to Apply Force to any Portion of the Perimeter of the Stack

The force of AAPA's clip—shown in Figure 4—is applied to the *central area* of a tray stack, resulting in warped trays. Appellants overcome the disadvantage of AAPA by applying a force to the perimeter of a stack as set forth in independent claims 1, 16, and 28:

Claim 1: “An apparatus for clamping together in a stack at least one tray... the apparatus comprising ... at least two pressure members”. The pressure members apply a force “on a portion of the *perimeter* of the stack”.

Claim 16: “An apparatus for clamping together in a stack at least one tray and a cover, the apparatus comprising ... at least two pressure members”. The “pressure members apply a force in an upward direction relative to the base on a portion of the *perimeter* of the stack....”

Claim 28: “An apparatus for clamping together in a stack at least one tray... the apparatus comprising ... at least two pressure members attached to the channel structure for applying a force in an upward direction relative to the base, wherein each pressure member applies pressure on a portion of the *perimeter* of the stack.”

The Specification provides the following description of AAPA (Fig. 4):

The designs of Figs. 2-4 apply a leverage to the tray, operating between each of the top prong contact points and the corresponding area of contact on the central area of the bottom of the stack. . . . This force causes damage due to the application of the force in the thin and weak central area. As the trays warp over time, gaps are

produced between trays in a stack. In some cases, the components stored in a tray can fall through the gaps, or be pinched in a gap, causing damage to the component. In addition, when a stack of trays is removed from a clip, and a tray is presented to an automated pick and place machine, the warped, distorted tray can cause pick-up errors. (*Specification at p. 2, paragraph 5.*)

Unlike in AAPA where pressure is applied to a central area of a tray, the current invention applies a force to the perimeter of a tray stack. This distinction by itself suffices to render Claims 1 – 4, 8 – 11, 16 – 19, 28, 30, 32 and 33 patentable.

1b) AAPA is Incapable of Applying Pressure to the Perimeter of a Stack

The Examiner argues that the Admitted Prior Art (Fig. 4) is “capable of performing the intended functions set forth in the claims.” This is incorrect because AAPA is incapable of applying a force to any portion of a stack perimeter as recited in Claim 1, even such as the stack postulated by the Examiner. The AAPA clip has curved pressure members that peak at the center. Accordingly, the peak of each pressure member in AAPA exerts force on the stack. Since each peak is located in the middle of the pressure members, AAPA applies its force to the center of the stack, rather than on any portion of the stack perimeter.

2) Distinction # 2: Resilient Members Recited in Claims 2, 4 and 19 are Absent from AAPA (Figure 4)

AAPA also fails to disclose a clip that includes resilient members as recited in Claims 2, 4, and 19. Claim 2 is representative of claims 4 and 19. Claim 2 recites in part: “a first resilient member extending from the base on one end of the channel; and a second resilient member extending from the base on a second

end of the channel that is opposite the one end of the channel.” Nothing in AAPA teaches or suggests adding resilient members to each end of AAPA’s channel. Therefore claims 2, 4, and 19 are also novel and non-obvious over AAPA because of their recitation of resilient members.

3) Distinction # 3: Use of a Narrow Tray is not Disclosed in AAPA or Known in the Art

To circumvent the deficiencies of AAPA, the Examiner’s §102 (b) rejection relies on an illustration that surfaced for the first time in the May 2006 Office Action (page 5, hereinafter referred to as the After-Filed Figure or AFF). The Examiner’s reliance on the After Filed Figure is improper and constitutes hindsight reconstruction.

In the After-Filed Figure, a narrow tray stack is added with just the right dimension to make the clip appear to contact a tray perimeter. However, Appellants submit that the After-Filed Figure is not prior art, as the illustration was developed by the Examiner after Appellants filed the present application.

Assuming arguendo, that the After-Filed Figure on page 5 of the Office Action is prior art, the After-Filed Figure does not anticipate any of the pending claims. The Examiner presumes that the tray shown in the After-Filed Figure exists. Specifically, it is presumed that skilled artisans would be motivated to use trays having a substantially narrower dimension than the channel of Fig. 4 (hereinafter referred to as a Narrow Tray). The Office Action omits any basis for presuming that skilled artisans would use the trays with the clip shown in the After-Filed Figure. Consequently, the reliance on the After-Filed Figure is in error.

Second, the springs 34 in the After-Filed Figure are curved and have a high point at each center. The force applied by springs 34 is not located on the terminal points of each spring, but instead on the top center or high point of each curve. As a result, springs 34 *only* contact the central area of the stack in the After-Filed Figure, thereby causing unwanted distortion of the trays. Again, it is erroneous to rely on the After-Filed Figure to reject any of the pending claims.

Turning now to the acknowledged prior art, AAPA also fails to teach or suggest using a stack that has a dimension that is radically different from the dimension of the base of the channel. AAPA omits any reference to using a tray whose perimeter partially contacts springs 34. Moreover, it would be uncertain how far to slide a narrow tray into AAPA. It would also be inefficient to substitute narrower trays as fewer components can be transported than with a tray that corresponds to the dimensions of the clip channel. In summary, AAPA does not teach or suggest designing a tray with a smaller dimension than its channel.

Accordingly, Claims 1, 16, and 28, as well as their respective dependent claims are novel over AAPA. Therefore, the Board is requested to reverse the §102(b) rejection of claims 1 – 4, 16 – 19, 28 -30, 32 and 33.

B. Claims 8 -11 are Patentable over AAPA

Claims 8 – 11 stand rejected under 35 USC 103(a) over AAPA. This rejection is traversed.

Claim 8 recites the apparatus of claim 1 for clamping together in a stack at least one tray that holds integrated circuits, “wherein the

apparatus is injection molded in one piece using an injection molding material.” Claim 8, being dependent on claim 1, includes all the novel features of claim 1, discussed above. Accordingly, since claims 8– 11 depend on a patentable independent claim (Claim 1), claims 8 – 11 are also patentable for similar reasons.

Claim 11 is further non-obvious because it claims resilient members that are neither taught nor suggested by AAPA. Specifically, Claim 11 recites “a first resilient member extending from the base on one end of the channel; and a second resilient member extending from the base on a second end of the channel that is opposite the one end of the channel.” Conspicuously, each end of AAPA’s channel lacks any type of resilient member. As a result, AAPA fails to suggest the invention of Claim 11. Therefore, the rejection of Claims 8 -11 under 35 USC 103(a) should be reversed.

Claims 1 -4, 16-19, 28, 30, 32 and 33 are novel under 35 USC 102(b) because AAPA fails to teach: 1) applying force to a perimeter portion of a tray stack; and 2) resilient members that extend upward from each channel end. It is also noted that the After Filed Figure that the Examiner developed with hindsight reconstruction does not constitute prior art. The invention set forth in claims 8- 11 is also non-obvious for at least the same reasons as claim 1, from which these claims depend. Therefore, Appellants request the reversal of the 35 USC 103(a) rejection of claims 8 - 11 as well.

VIII. Conclusion

For the foregoing reasons, it is submitted that the Examiner's rejection of Claims 15- 22 is erroneous. Therefore reversal of the 35 USC 102(b) and 35 USC 103(a) rejections is respectfully requested.

Respectfully submitted,



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CLAIMS APPENDIX

1. An apparatus for clamping together in a stack at least one tray adapted to hold a plurality of integrated circuits in pockets disposed therein and a cover, the apparatus comprising:

a base forming a bottom of a channel, the channel having a first opening opposite a second opening, each opening allowing for the insertion and removal of the stack;

first and second restraining segments attached to the base that together with the base form a channel structure, wherein the channel structure restricts substantial movement of the stack both transverse to a length of the channel and perpendicular to a plane of the base; and

at least two pressure members attached to the channel structure, each pressure member having a slit between the base and a side of the pressure member, wherein the pressure members apply a force on a portion of the perimeter of the stack to clamp the stack together, to prevent movement of the tray independent of the cover and to retain the integrated circuits disposed within the pockets of the tray.

2. The apparatus of claim 1 wherein the at least two pressure members apply pressure to the stack, and include:

a first resilient member extending from the base on one end of the channel; and

a second resilient member extending from the base on a second end of the channel that is opposite the one end of the channel.

3. The apparatus of claim 1 wherein the first and second restraining segments comprise parallel walls extending upward from the base; and

a protrusion attached to each wall above the base and extending

inwards towards the channel so as to extend over a portion of the perimeter of the stack when the stack is inserted in the channel.

4. The apparatus of claim 3, wherein the stack is clamped together between the protrusions and the two pressure members, wherein the at least two pressure members comprise:
a first resilient member extending from the base on one end of the channel; and
a second resilient member extending from the base on a second end of the channel that is opposite the one end of the channel.

8. The apparatus according to claim 1 wherein the apparatus is injection molded in one piece using an injection molding material.

9. The apparatus according to claim 8 wherein the at least two pressure members each are disposed in a first plane different than a second plane formed by a surface of the channel structure.

10. The apparatus of claim 9 wherein the first and second restraining segments each comprise:
parallel walls extending upward from the base; and
a protrusion attached to each wall above the base and extending inwards towards the channel so as to extend over a portion of the perimeter of the stack when the stack is inserted in the channel.

11. The apparatus of claim 10 wherein the stack is clamped together between the protrusions and the two pressure members, wherein the at least two pressure members include:
a first resilient member extending from the base on one end of the channel; and
a second resilient member extending from the base on a second

end of the channel that is opposite the one end of the channel.

16. An apparatus for clamping together in a stack at least one tray and a cover, the apparatus comprising:

a base forming a bottom of a channel, the channel allowing for the insertion and removal of the stack;

first and second restraining segments attached to the base that together with the base form a channel structure, wherein the channel structure restricts substantial movement of the stack both transverse to a length of the channel and perpendicular to a plane of the base; and

at least two pressure members attached to the channel structure, each pressure member having a slit between the base and a side of the pressure member, wherein the pressure members apply a force in an upward direction relative to the base on a portion of the perimeter of the stack, to prevent movement of the tray independent of the cover.

17. The apparatus of claim 16 wherein:

the first and second restraining segments comprise parallel walls extending upward from the base; and

a protrusion attached to each wall above the base and extending inwards towards the channel so as to extend over a portion of the perimeter of the stack when the stack is inserted in the channel.

18. The apparatus of claim 17 wherein the pressure members are attached to the base.

19. The apparatus of claim 18 wherein the pressure members include a first resilient member disposed at a first end of the channel and a second resilient member disposed at a second end of the channel.

28. An apparatus for clamping together in a stack at least one tray adapted to hold a plurality of integrated circuits in pockets disposed therein and a cover, the apparatus comprising:

a base having an outer edge that is linear along its entire surface and forming a bottom of a channel, the channel allowing for the insertion and removal of the stack;

first and second restraining segments attached to the base that together with the base form a channel structure; and

at least two pressure members attached to the channel structure for applying a force in an upward direction relative to the base, wherein each pressure member applies pressure on a portion of the perimeter of the stack.

30. The apparatus of claim 28, further comprising protrusions that extend from each restraining segment.

32. The apparatus of claim 28, wherein the first and second restraining segments each comprise:

parallel walls extending upward from the base; and
a protrusion attached to each wall above the base and extending inwards towards the channel so as to extend over a portion of the perimeter of the stack when the stack is inserted in the channel.

33. The apparatus of claim 28, wherein said apparatus is a unitary assembly.

Evidence Appendix

None

Related Proceedings Appendix

None